cPCI-3970 Series

3U CompactPCI 2nd Generation Intel® Core™ i7 Processor Blade with ECC

Features

- Quad/dual-core 2nd Generation Intel® Core™ i7 processor
- Up to 16GB DDR3-1333 SDRAM with ECC in 2x SODIMM
- IPMI for system health monitoring
- DisplayPort, VGA, DVI, HDMI graphics interfaces
- System/Peripheral slot operation

Specifications

- Processor & System
  
  CPU
  - μFC-BGA quad-core Intel® Core™ i7-2715QE Processor 2.1GHz (Turbo boost to 3.0GHz), 6MB LLC cache, 45W TDP
  - μFC-BGA dual-core Intel® Core™ i7-2655LE Processor 2.2GHz (Turbo boost to 2.9GHz), 4MB LLC cache, 25W TDP
  - μFC-BGA dual-core Intel® Core™ i7-2610UE Processor 1.5GHz (Turbo boost to 2.4GHz), 4MB LLC cache, 17W TDP
  - Supports Intel® Hyper-Threading and Turbo Boost Technology

  Chipset
  Intel® QM67 PCH

  Memory
  Dual channel DDR3-1067/1333 SDRAM with ECC via two SODIMM sockets, up to 16GB capacity (dependent on availability of memory modules)

  BIOS
  AMI EFI BIOS, 64Mbit SPI flash memory

- Connectivity
  
  PMC/XMC
  - One optional PCI 32-bit/66 MHz PMC site or PCI-Express x1 XMC site on 2nd or 3rd layer

  Ethernet
  - Four PCIe Intel® 82574L Gigabit Ethernet controllers on SBC for four 10/100/1000BASE-T ports on front panel
  - RTM cPCI-R3P00: two GbE on I/O panel switched from SBC
  - RTM cPCI-R3P00T: two GbE on I/O panel from onboard Intel® 82580DB GbE controller

  Graphics
  - Integrated in Intel® processor, 3D engine
  - DB-15 VGA port on front panel, switchable to rear, supports up to QXGA 2048x1536 pixels @75Hz, 32-bits
  - Two DisplayPorts on front panel, support up to 2560x1600 pixels @60Hz; DVI, VGA and HDMI interfaces available by adapter cable (cPCI-3970G only)
  - Dual independent display

  Serial Port
  - Up to four serial ports
  - One RS-232/422/485 port on front panel
  - One RS-232/422/485 10-pin header on DB-3970L2
  - Two serial ports on rear panel: one with Tx, Rx signal only, one converted from USB port supporting RS-232/422/485

  PS/2
  - Front panel PS/2 Keyboard Mouse port (8/12 HP version only)

  USB
  - Up to four USB 2.0 front panel ports
  - Three USB ports to rear, two on RTM panel

  Audio
  - Line-in and Line-out ports on front panel (cPCI-3970D only)
Specifications

● Storage
  Blade
  One SATA 6 Gb/s direct connector for 2.5” onboard HDD
  (8HP & 12HP version only)
  CompactFlash socket
  Optional CFast socket (site shared with CF adapter board)
  RTM
  Three 7-pin SATA signal connectors
  Supports SATA RAID 0/1/5/10

● Operating System
  OS
  Microsoft Windows XP Professional
  Microsoft Windows 7, 64bit version
  Red Hat Enterprise Linux 6 32/64-bit
  Fedora 14
  Wind River VxWorks 6.8, 6.9
  (Please contact ADLINK for other OS support)

● Miscellaneous
  LED
  Power (green/red), WDT (amber), HDD (blue), Overheat (red)
  Battery
  Coin cell lithium battery onboard for RTC CMOS RAM
  Watchdog Timer
  System Reset and NMI, with programmable interval,
  1-65535 sec or 1-65535 minutes
  Hardware Monitor
  Monitors CPU temperature, system temperature, and DC voltages by IPMI
  TPM
  Infineon SLB 9635 TT1.2 (optional by request)

● Mechanical and Environmental
  Form Factor
  3U 4HP/8HP/12HP CompactPCI
  100mm x 160mm (LxW)
  Operating Temperature
  0°C to +60°C
  -20°C to +70°C extended temperature (cPCI-ET3970, CPUs with TDP 25W or lower)
  -40°C to +80°C extreme extended temperature (cPCI-EX3970, Core i7-2610UE only)
  Storage Temperature
  -40°C to +85°C
  Rel. Humidity
  95% non-condensing
  Shock
  20g peak-to-peak, 11ms duration, non-operating
  Vibration
  2g random vibration, 5 to 500Hz in 3 axes, operating
  Power Consumption
  Core i7-2655LE, 4GB DDR3-1333 SODIMM under Windows XP with 100% CPU loading:
  0.71A@3.3V, 6.97A@5V, total 37.2W
  Weight
  Net weight 389g with heatsink
  Certifications
  CE/FCC
## I/O Table

<table>
<thead>
<tr>
<th>Model</th>
<th>Faceplate</th>
<th>Onboard</th>
<th>GbE</th>
<th>USB 2.0</th>
<th>COM</th>
<th>Display</th>
<th>PS/2 KB/MS</th>
<th>Storage</th>
<th>CFast</th>
<th>Audio</th>
<th>PMC/XMC</th>
</tr>
</thead>
<tbody>
<tr>
<td>cPCI-3970</td>
<td>2 (RJ-45)</td>
<td></td>
<td>2</td>
<td></td>
<td>1 (VGA)</td>
<td>1 (CF)</td>
<td>Optional[3]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4HP)</td>
<td></td>
<td>1 (SATA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cPCI-3970D</td>
<td>2 (RJ-45)</td>
<td></td>
<td>4</td>
<td>1 (DB9)</td>
<td>1 (VGA)</td>
<td>1</td>
<td>1 (Line-in)</td>
<td>1 (Line-out)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(8HP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cPCI-3970G</td>
<td>2 (RJ-45)</td>
<td></td>
<td>3</td>
<td>1 (RJ-45)</td>
<td>1 (VGA)</td>
<td>2 (DP)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(8HP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cPCI-3970L</td>
<td>4 (RJ-45)</td>
<td></td>
<td>3</td>
<td>1 (DB9)</td>
<td>1  (VGA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(8HP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cPCI-3970M</td>
<td>2 (RJ-45)</td>
<td></td>
<td>4[(i)]</td>
<td>2 (DB9)[(i)]</td>
<td>1 (VGA)</td>
<td>2 (DVI-D)</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(8HP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cPCI-3970P</td>
<td>2 (RJ-45)</td>
<td></td>
<td>4</td>
<td>1 (DB9)</td>
<td>1 (VGA)</td>
<td>1</td>
<td>1 (Line-in)</td>
<td>1 (Line-out)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(12HP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cPCI-3970Q</td>
<td>2 (RJ-45)</td>
<td></td>
<td>2</td>
<td>1 (VGA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(8HP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cPCI-3970U</td>
<td>2 (RJ-45)</td>
<td></td>
<td>3</td>
<td>1 (RJ-45)</td>
<td>1 (VGA)</td>
<td>2 (DP)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(12HP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cPCI-R3P00</td>
<td>2 (RJ-45)[(i)]</td>
<td></td>
<td>2</td>
<td>2 (DB9)</td>
<td>1 (VGA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(T)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

1. Switched from front ports for cPCI-R3P00, independent ports for cPCI-R3P00T
2. Switched from front port
3. Available by replacing CF socket adapter board with CFast socket adapter board (DB-3CFAST)
4. Two USB Type A connectors, two COM RS-232/422/485, two DVI-D, two PS/2 KB/MS, Line-in/Line-out are integrated in 100-pin high density connector on layer two daughter board.
Ordering Information

Processor Blades

- **cPCI-3970/655L/M4**
  1-slot (4HP) 3U CompactPCI blade with Intel® i7-2655LE processor and 2x 2GB DDR3-1333, 2x GbE, VGA, 2x USB 2.0, CF socket

- **cPCI-3970D/655L/M4**
  2-slot (8HP) 3U CompactPCI blade with Intel® i7-2655LE processor and 2x 2GB DDR3-1333, 2x GbE, VGA, 4x USB 2.0, Line-in, Line-out, PS/2 KB/MS, COM, SATA connector, CF socket

- **cPCI-ET3970D/610U/M4**
  -20°C to +70°C extended temperature cPCI-3970D/610U/M4G (no TPM)

- **cPCI-3970D/610U/M4**
  2-slot (8HP) 3U CompactPCI blade with Intel® i7-2610UE processor and 2x 2GB DDR3-1333, 2x GbE, VGA, 4x USB 2.0, Line-in, Line-out, PS/2 KB/MS, COM, SATA connector, CF socket

- **cPCI-3970G/610U/M4**
  2-slot (8HP) 3U CompactPCI blade with Intel® i7-2610UE processor and 2x 2GB DDR3-1333, 2x GbE, VGA, 3x USB 2.0, PS/2 KB/MS, COM, 2x DP, SATA connector, CF socket (one DP to DVI cable is included)

- **cPCI-EX3970G/610U/M4**
  -40°C to +80°C extreme extended temperature cPCI-3970D/610U/M4G (no TPM)

- **cPCI-3970L/655L/M4**
  2-slot (8HP) 3U CompactPCI blade with Intel® Core™ i7-2655LE processor and 2x 2GB DDR3-1333, VGA, 4x GbE, 3x USB 2.0, COM, CF socket and SATA connector

- **cPCI-3970M/610U/M8**
  2-slot (8HP) 3U CompactPCI blade with Intel® i7-2610UE processor and 2x 4GB DDR3-1333, 2x GbE, VGA, 2x USB 2.0, SATA connector, CF socket; additional high density 100-pin connector with Line-in/Line-out, 2x DVI, 2x type A USB, PS/2 KB/MS, 2x DB-9 COM

- **cPCI-3970P/655L/M4**
  3-slot (12HP) 3U CompactPCI blade with Intel® i7-2655LE processor and 2x 2GB DDR3-1333, 2x GbE, VGA, 4x USB 2.0, Line-in, Line-out, PS/2 KB/MS, COM, SATA connector, CF socket, PMC/XMC

- **cPCI-3970Q/715Q/M8**
  2-slot (8HP) 3U CompactPCI blade with Intel® i7-2715QE processor and 2x 4GB DDR3-1333, 2x GbE, VGA, 2x USB 2.0, CF socket

- **cPCI-3970U/655L/M4**
  3-slot (12HP) 3U CompactPCI blade with Intel® i7-2655LE processor and 2x 2GB DDR3-1333, 2x GbE, VGA, 2x DP, 3x USB 2.0, PS2 KB/MS, COM, CF socket, SATA connector, PMC/XMC

Rear Transition Modules

- **cPCI-R3P00**
  8 HP Rear I/O module for cPCI-3970 with 2x GbE, 2x COM, 2x USB 2.0, 3x SATA connectors, VGA, 50mm depth

- **cPCI-R3P00T**
  8 HP Rear I/O module for cPCI-3970 with 2x GbE, 2x COM, 2x USB 2.0, 3x SATA connectors, VGA, 80mm depth

Accessories

- **DB-3CFAST**
  CFast socket adapter board

- **DP-DVI cable***
  DisplayPort to DVI adapter cable

- **DP-VGA cable**
  DisplayPort to VGA adapter cable

- **DP-HDMI cable**
  DisplayPort to HDMI adapter cable

Contact us for different CPU, memory, HDD and CFast combinations.

*One DP-DVI cable is included with the cPCI-3970G.